

1 **CLAIMS**

2 *D1*) 1. A television tuner comprising:
3 a country table listing a plurality of countries;
4 multiple channel-to-frequency mapping tables correlating channel numbers
5 to corresponding frequencies for associated countries in the country table, the
6 channel-to-frequency mapping tables being indexed by the country table so that
7 selection of a country in the country table references an associated channel-to-
8 frequency mapping table for the selected country; and

9 a tuning device to tune to a particular frequency within the channel-to-
10 frequency mapping table associated with the selected country upon selection of a
11 corresponding channel.

12
13 2. A television tuner as recited in claim 1, wherein the country table lists
14 the countries according to a uniquely assigned country code.

15
16 3. A television tuner as recited in claim 1, wherein the country table lists
17 the countries according to an International Telecommunications Union (ITU)
18 code.

19
20 4. A television tuner as recited in claim 1, wherein the channel-to-
21 frequency mapping tables also contain a television standard for the associated
22 countries.

1 5. A television tuning component for a television tuning system,
2 comprising:

3 a country table listing a plurality of countries; and
4 multiple channel-to-frequency mapping tables correlating channel numbers
5 to corresponding frequencies for associated countries in the country table, the
6 channel-to-frequency mapping tables being indexed by the country table so that
7 selection of a country in the country table references an associated channel-to-
8 frequency mapping table for the selected country and selection of a channel in the
9 channel-to-frequency mapping table maps to a corresponding frequency.

10
11 6. A television tuning component as recited in claim 5, wherein the
12 country table lists the countries according to a uniquely assigned country code.

13
14 7. A television tuning component as recited in claim 5, wherein the
15 country table lists the countries according to an International Telecommunications
16 Union (ITU) code.

17
18 8. A television tuning component as recited in claim 5, wherein the
19 channel-to-frequency mapping tables also contain a television standard for the
20 associated countries.

21
22 9. A television tuning component as recited in claim 5, embodied in
23 software as a dynamic linked library stored on a computer-readable storage
24 medium.

1 **10.** A television tuner incorporating the television tuning component as
2 recited in claim 5.

3
4 **11.** A tuner, comprising:
5 tuner circuitry to tune to various television frequencies carrying television
6 video signals;

7 a tuner module coupled to adjust the tuner circuitry to scan multiple
8 channels within a particular locale for corresponding tuning frequencies, the tuner
9 module storing the tuning frequencies for the particular locale.

10 **12.** A tuner as recited in claim 11, wherein:
11 upon transporting the tuner to a new locale, the tuner module scans multiple
12 channels within the new local for corresponding tuning frequencies; and
13 upon transporting the tuner back to the particular locale, the tuner retrieves
14 the stored tuning frequencies to restore operation in the particular locale.

15
16 **13.** A television tuning system comprising:
17 tuner circuitry to tune to various television frequencies carrying television
18 video signals;
19 video decoder circuitry coupled to receive a television video signal from the
20 tuner circuitry and to convert the television video signal to digital video data;
21 a tuner module coupled to adjust the tuner circuitry to a particular television
22 frequency;
23 a video decoder module to decode the digital video data according to a
24 particular video standard;

1 wherein the tuner module has a country table listing a plurality of countries
2 and multiple channel-to-frequency mapping tables that provide video standards
3 and correlate channel numbers to corresponding frequencies for associated
4 countries in the country table, the channel-to-frequency mapping tables being
5 indexed by the country table so that selection of a country in the country table
6 references an associated channel-to-frequency mapping table for the selected
7 country; and

8 wherein the tuner module selects a channel-to-frequency mapping table
9 based upon input of a particular country and outputs a video standard to the video
10 decoder for use in decoding the digital video data, the tuner module further
11 selecting a television frequency from the selected channel-to-frequency mapping
12 table based upon input of a corresponding channel and outputting the selected
13 television frequency to the tuner circuitry to cause the tuner circuitry to tune to the
14 selected television frequency.

15
16 **14.** A television tuning system as recited in claim 13, wherein the
17 country table lists the countries according to an International Telecommunications
18 Union (ITU) code.

19
20 **15.** A television tuning system as recited in claim 13, wherein the tuner
21 module is embodied as a dynamic linked library.

1 **16.** A television tuning system as recited in claim 13, further comprising
2 a second tuner module different from the tuner module, the second tuner module
3 being used to replace the tuner module during upgrade without replacing the
4 tuning circuitry and the decoding circuitry.

5
6 **17.** A television tuning system as recited in claim 13, wherein the tuner
7 module supports an application program interface to expose functionality of the
8 tuner module to an application program.

9
10 **18.** A television tuning system as recited in claim 13, wherein the tuner
11 module stores a set of television frequencies that map to corresponding channels
12 within the particular country for subsequent retrieval.

13
14 **19.** A television tuning manager for a television tuner, the television
15 tuning manager being implemented in software stored on a computer-readable
16 storage medium, the television tuning device comprising:

17 a country table listing a plurality of countries;
18 multiple channel-to-frequency mapping tables correlating channel numbers
19 to corresponding frequencies for associated countries in the country table, the
20 channel-to-frequency mapping tables being indexed by the country table so that
21 selection of a country in the country table references an associated channel-to-
22 frequency mapping table for the selected country;

23 a code segment to select a channel-to-frequency mapping table based upon
24 input of a particular country; and

1 a code segment to output a broadcast frequency from the selected channel-
2 to-frequency mapping table based upon input of a corresponding channel.

3

4 **20.** A television tuning manager as recited in claim 19, wherein the
5 country table lists the countries according to a uniquely assigned country code.

6

7 **21.** A television tuning manager as recited in claim 19, wherein the
8 country table lists the countries according to an International Telecommunications
9 Union (ITU) code.

10

11 **22.** A television tuning manager as recited in claim 19, wherein the
12 channel-to-frequency mapping tables also contain a television standard for the
13 associated countries.

14

15 **23.** A television tuning manager as recited in claim 19, further
16 comprising a code segment to store a set of broadcast frequencies that map to
17 corresponding channels within the particular country for subsequent retrieval.

18

19 **24.** A television tuning manager as recited in claim 19, embodied as a
20 software dynamic linked library stored on a computer-readable storage medium.

1 **25.** A television tuning manager as recited in claim 19, embodied as a
2 computer software module that is dynamically accessible by an application
3 program, the television tuning manager further comprising an application program
4 interface to expose functionality of the television tuning manager to the
5 application program.

6

7 **26.** An application program interface for a television tuning system, the
8 application program interface being embodied on a computer-readable medium
9 and having methods for performing the following functions:

10 setting a current TV channel;
11 retrieving the current TV channel;
12 setting a country code;
13 retrieving the country code;
14 setting a storage index for regional channel to frequency mappings; and
15 retrieving the storage index.

16

17 **27.** An application program interface for a television tuning system, the
18 application program interface being embodied on a computer-readable medium
19 and having methods for performing the following functions:

20 retrieving all analog video TV standards supported by the tuning system;
21 retrieving a current analog video TV standard in use;
22 setting a current TV channel;
23 retrieving the current TV channel;
24 retrieving highest and lowest channels available;
25 scanning for a precise signal on the current TV channel's frequency;

1 setting a country code;
2 retrieving the country code;
3 setting a storage index for regional channel to frequency mappings;
4 retrieving the storage index;
5 retrieving a number of TV sources plugged into the tuning system;
6 setting a type of tuning system;
7 retrieving the type of tuning system;
8 retrieving a current video frequency; and
9 retrieving a current audio frequency.

10

11 **28.** A method comprising the following steps:

12 receiving an ITU (International Telecommunications Union) code for a
13 particular country; and
14 selecting, based on the ITU code, a set of TV channel-to-TV frequency
15 mappings for use in the particular country.

16

17 **29.** A method as recited in claim 28, further comprising the step of
18 selecting, based on the ITU code, a TV standard for use in the particular country.

19

20 **30.** A method as recited in claim 28, further comprising the step of
21 storing the selected set of TV channel-to-TV frequency mappings.

22

23 **31.** A computer-readable medium having computer-executable
24 instructions for performing the steps in the method as recited in claim 28.

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1 **32.** A method comprising the following steps:
2 receiving a reference to a country;
3 selecting, based on the country reference, a set of channel-to-frequency
4 mappings correlating channels to corresponding TV frequencies in the country;
5 receiving a channel; and
6 selecting, based on the channel, a TV frequency that maps to the channel;

7
8 **33.** A method as recited in claim 32, further comprising the step of
9 tuning to the TV frequency.

10
11 **34.** A method as recited in claim 32, wherein the country reference is an
12 ITU (International Telecommunications Union) code.

13
14 **35.** A method as recited in claim 32, further comprising the step of
15 selecting, based on the country reference, a TV standard for the country.

16
17 **36.** A method as recited in claim 32, further comprising the step of
18 scanning for a better quality frequency within the channel.

19
20 **37.** A method as recited in claim 32, wherein the step of selecting a set
21 of channel-to-frequency mappings comprises the following steps:

22 looking up the country in a country table that lists multiple countries; and
23 indexing from an entry for the country in the country table to a particular
24 channel-to-frequency table, the particular channel-to-frequency table containing
25 mappings of channel numbers to TV frequencies for the country.

1
2 **38.** A method as recited in claim 37, wherein the step of selecting a TV
3 frequency comprises the step of looking up in the particular channel-to-frequency
4 table a TV frequency that corresponds to the channel.
5

6 **39.** A computer-readable medium having computer-executable
7 instructions for performing the steps in the method as recited in claim 32.
8

9 **40.** A method comprising the following steps:
10 configuring a tuning system for operation in a first locale by determining
11 tuning frequencies for an associated set of channels;
12 storing the tuning frequencies for the first locale;
13 upon transporting the tuning system to a second locale, reconfiguring the
14 tuning system for operation in the second locale; and
15 upon transporting the tuning system back to the first locale, retrieving the
16 stored tuning frequencies to restore operation in the first locale.
17

18 **41.** A method as recited in claim 40, wherein the configuring step
19 comprises the step of scanning for optimal tuning frequencies for the associated
20 set of channels.
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22 **42.** A computer-readable medium having computer-executable
23 instructions for performing the steps in the method as recited in claim 40.
24
25

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